MODULE 5

PROGRAMMES IN INTEGRATED COASTAL AREA MANAGEMENT (ICAM)

PROGRAMMES IN INTEGRATED COASTAL AREA MANAGEMENT

OBJECTIVES:

- To outline the Global Programme of Action for ICAM

- To give guidelines on the development and implementation of ICAM Programmes

OVERVIEW:

- Defines Global Programme of Action for ICAM

- Outlines steps for integrating Programme of Action within the framework of ICAM

- Lists critical areas of concern for which a Programme of Action should be developed

- Details programme support elements including long-term national objectives

- Presents a model for implementation of phases of the ICAM Programme

MODULE 5

THE GLOBAL PROGRAMME OF ACTION

The Global Programme of Action (GPA) for the Protection of the Marine Environment from land based activities is the result of an Intergovernmental conference held in Washington, D. C. In 1995 (UNEP,1995). The GPA is geared towards preventing degradation of the marine environment from land-based activities.

> Agenda 21 makes the link between actions to combat marine degradation caused by land-based activities and actions which address the specific problems of small island developing states

It was designed to give conceptual and practical guidance to national and/or regional authorities in devising and implementing sustained action to prevent, reduce control and/or eliminate marine degradation .

Effective implementation of this Programme of Action is a crucial and essential step forward in the protection of the marine environment and will promote the objectives and goals of sustainable development, including sound tourism development.

Agenda 21 makes the link between actions to combat marine degradation caused by land-based activities and actions which address the specific problems of small island developing states. At the Conference on Sustainable Development of Small Island Developing States (SIDS), in Barbados in 1994, many states of the Wider Caribbean Region agreed to implement the provisions of the priority areas of the Programme of Action.

The Global Programme of Action reflects the fact that states face a growing number of commitments and challenges in achieving improved environmental performance. Its implementation will require new approaches by, and new forms of collaboration among governments, organizations and institutions with responsibilities and expertise relevant to marine and coastal areas, at all levels - national, regional and global. The implementation of ICAM programmes of the Wider Caribbean Regions incorporating the issues and needs for the sustainable development of tourism would be significant contributions to the delivery of the Global Programme of Action.

Once implemented, these programmes should contribute to maintaining and restoring the productive capacity and biodiversity of the marine environment to ensure the protection of human health and the conservation and sustainable use of marine living resources.

Development of comprehensive, continuing and adaptive programmes of action within the framework of **Integrated Coastal Area Management** which are relevant to tourism should include provisions for:

- Identification and assessment of problems.
- Establishment of priorities.
- Setting management objectives for priority problems.
- Identification, evaluation and selection of strategies and measures including management approaches.
- Establishment of criteria for evaluating the effectiveness of strategies and programmes.

Actions

The effective development and implementation of national programmes of action should focus on sustainable, pragmatic and integrated environmental management approaches and processes, such as Integrated Coastal Area Management harmonized as appropriate with river basin management and land-use plans.

Areas of Concern (areas that are affected or vulnerable)

- Critical habitats, including coral reefs, wetlands, seagrass beds, coastal lagoons and mangrove forests.
- Habitats of endangered species.
- Ecosystem components, including spawning areas, nursery areas, feeding grounds and adult areas.
- Shorelines.
- Coastal watersheds.
- Estuaries and their drainage basins.
- Special marine and coastal areas.
- Small islands.

Establishment of Priorities

Priorities for action should be established by assessing the factors described above and should specifically reflect:

- The relative importance of impacts upon food security, public healthy, coastal and marine resources, ecosystem health and socio-economic benefits, including cultural values, in relation to:
- Source-categories (contaminants, physical alteration and other forms of degradation and the source of practice from which they emanate)

- The area affected including its uses and the importance of its ecological characteristics.
- The costs, benefits and feasibility of options for action including the long=term cost of no action.

In the process of establishing priorities for action and throughout all stages of developing and implementing national programmes of action, states should:

- Apply **Integrated Castal Area Management** approaches, including provision to involve stakeholders, in particular local authorities and communities and relevant social and economic sectors, including non-governmental organizations, women, indigenous people and other groups.
- Recognize the basic linkages between the freshwater and marine environments through, inter alia, application of watershed management approaches.
- Recognize the basic linkages between sustainable management of coastal and marine resources, poverty alleviation and protection of the marine environment.
- Apply environmental impact assessment procedures in assessing options.
- Take into account the need to view such programmes as an integrated part of existing or future comprehensive environmental programmes.
- Take steps to protect: (i) critical habitats, using community-based participatory approaches that are consistent with current approaches to conservation and uses compatible with sustainable development; and (ii) endangered species.

↳ Integrate national action with any relevant regional and global priorities, programmes and strategies.

↳ Establish focal points to facilitate regional and international co-operation.

↳ Apply the precautionary approach and the principle of inter-generational equity.

Programme Support Elements

The long-term objective of national programmes of action should be to develop integrated strategies and programmes to address all action priorities in relation to impacts upon the marine environment from land-based activities, which may also include tourism activities .

In addition, the programmes of action must themselves be integrated with overall national objectives and other relevant programmes in relation to sustainable development.

States therefore should seek to ensure that there are administrative and management structures necessary to support national programmes of action. These include as appropriate:

↳ Organizational arrangements to co-ordinate among sectors and sectoral institutions.

↳ Legal and enforcement mechanisms (e.g. need for new legislation).

↳ Financial mechanisms (including innovative approaches to provide continuing and predictable programme funding).

↳ Means of identifying and pursuing research and monitoring requirements in support of the programme.

↳ Contingency planning.

↳ Human resources development and education.

↳ Public participation and awareness (e.g. based on integrated coastal area management principles).

Funding the Programmes

National and regional programmes should ensure that there is a balance between the projects to be undertaken in implementing national and regional priorities and the sources and mechanics for financial resources as necessary. The mix of the various possibilities that will be appropriate will vary from country to country.

The pattern of funding will have to be determined in accordance with the decisions on individual projects. Further, countries in need of assistance may help in capacity-building for:

↳ the development of national programmes of action

↳ preparation of national assessments on each source-category

↳ identification of the national plans

DEVELOPMENT AND IMPLEMENTATION OF ICAM PROGRAMMES

This model for developing and implementing ICAM programmes is a prototype approach which may be difficult for many countries to fully emulate. Nevertheless, these preliminary guidelines for countries in the Wider Caribbean Region are intended to improve existing coastal area management programmes, but it is

Recognized that not all steps must be followed exactly as presented. The four-phase process suggested by UNEP (1996) is outlined below. Each phase is presented in detail in the four sub-sections which follow.

Considering the importance of the tourism industry in the Wider Caribbean Region, it is vital that greater participation of the sector take place in the planning and management of coastal areas.

Phase 1   Programme Initiation

During this phase focus is set, issues reviewed, goals and objectives established; and preliminary planning and organizing efforts are put in motion.

Phase 2   Resource Characterization and Problem Definition

A number of parallel investigations are carried out which determine what problems should be addressed including the actions required.

Phase 3   Programme planning

A coastal management plan and related planning tools should be assembled.

Phase 4   Plan Implementation

This involves ongoing provisions for programme evaluation and modification.

Phase 1: Programme Initiation

There is a general agreement among coastal area programme specialists that there is no unique best scenario for the start-up and implementation of a new coastal area management programme, integrated or otherwise. In several cases, studies done before World Coast 1993, the International Conference on Coastal Zone Management held in the Netherlands, it was evident that a wide variety of successful programme initiatives exist but that they differ widely. In fact, it was "...evident that the most important lesson to be learned about Integrated Coastal Zone Management (ICZM) arose from the differences between successful approaches" (Awosika, et al., 1993).

This is, of course, a favourable finding as it suggests a broad set of tactical options, tools and approaches that the would-be coastal programme planner can choose from, selecting those that appear best suited to local conditions and circumstances. However, this also suggests the need for a pre-project preview of what has worked elsewhere and under what specific conditions comparable to those prevailing locally.

The development of the idea for improved coastal area management in a country by persuading the country to restructure itself in light of a new integrated approach is a relatively easy task. Less easy is the development of the idea inside the government structure. There are essential prerequisites which include:

✎ Selecting and legitimizing the initial leadership team.

✎ Arrangement of institutional (organizational) support.

✎ Establishment of government's formal approval.

✎ Development of a stakeholders' strategy.

↳ Development of a public awareness strategy.

An ICAM Steering Committee may be established from an initial leadership team and may be formally or informally constituted. The leadership team needs to have broad expert representation from government, tourism industry, academia, fisheries, selected coastal communities and user-group institutions, the port authority and national, local or regional planning units.

Under the Steering Committee a Planning Team should be established in order to facilitate co-ordination for planning. Supporting institutional arrangements should be put in place through quasi- and non-governmental institutions, such as marine and coastal research facilities, academies of science, and university marine science and engineering units. These institutions have the expertise, the information base and the flexibility to make significant contributions to ICAM planning. Government involvement depends on the extent of the perception of government control over decisions about non-private resources, the extent of involvement in promoting and supporting marine and coastal research institutions and programmes and the extent to which leaders can be identified who are already active users of the coastal zone. Coastal area stakeholders have a strong interest in the viability of the coastal zone and stakeholders who are most likely to be affected by government policies should play the most significant role in their formulation and implementation. Other aspects that need to be considered are the areas of public support, definition of goals, strategic planning and data management.

Phase 2: Resource Characterization and Problem Definition

An ICAM action programme should consist of objectives aimed at reducing or preventing certain stresses in the coastal zone. This phase should be aimed at gathering information to determine which problems will be addressed and what actions are needed. The first category of information gathering requires that technical and scientific characterization be done which involves surveying the existing coastal ecosystem for determination of current and projected state of environmental health. Management characterization is the second category of information needs and involves institutional inventory and management assessment.

Phase 3: Programme Planning

In the Programme Planning Phase several aspects have to be taken into account. These include the formulation of the concept of ICAM, development of an interdisciplinary group (the Team) which will be charged with formulating the plan, selection of a working agenda which delivers: a formal ICAM Plan and supplemental management plans, continued data collection pertinent to the planning task, assessment of Geographic Information System (GIS) needs, interagency co-ordinating mechanisms, regulatory instruments and monitoring, designing institutional arrangements, planning and management boundaries, case studies and pilot/demonstration projects and revision of goals and objectives.

Phase 4:   Plan Implementation

Implementation of the Management Plan involves several elements, involving government and non-governmental organizations, private sector and community groups. Monitoring of the plan, may include technical aspects such as ongoing plan evaluation, audits and redesign, as well as recommendations and reports. Administration elements of ICAM implementation must be considered in this phase and they include financing, work plans, training and evaluation.

Intersectorial strategies should be considered such as pollution control, land use planning, environmental assessment and audit, conservation issues as well as training and education. Monitoring is aimed at establishing the necessary flow of information on decisions, actions, and investments as they relate to the implementation of ICAM. Monitoring can take the form of on-going routine observations, compliance or surveillance monitoring, structure monitoring or programme monitoring. Enforcement is a sensitive area that can have major impacts on implementation if not conducted properly. Several levels of enforcement are possible and education an outreach initiatives may be best implemented before punitive or legal actions are taken.

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APPENDIX 1
COURSE EVALUATION

After any form of training course, it is important to determine the relevance and success of the course. The main reasons for doing this are to determine:

- ✎ the usefulness of the course to the participants
- ✎ the relevance of the content of the course to participants' work
- ✎ the adequacy of the level of organization
- ✎ the comfort of the facilities
- ✎ the clarity of audio-visual material
- ✎ the accuracy of the information , and
- ✎ the quality of presentations and preparedness of the speakers
- ✎ in terms of their relative expertise

A course evaluation will help determine whether the course was as useful as was expected by the organizers, and if not, will assist in improving on future courses by addressing particular issues that were reflected on negatively by the participants.

Course evaluation sheets are best presented at the beginning of the workshop with the introductory material so that participants have time to read it through and answer questions or make notes as the workshop proceeds. It is best to arrange a box or file for the participants to leave their questionnaires at the end of the workshop, rather than requesting that they be sent by mail or fax on a later date. Participants should be given the option of signing or completing evaluations anonymously.

The design of the evaluation sheet should be simple and straight forward with direct questions that require straight forward answers. The questions should be designed so that answers can be:

1. yes or no
2. not applicable (N/A)
3. on a scale of 1 through to 5, with 1 being the lowest score
4. on a range of opinions - strongly agree, agree, disagree, strongly disagree
5. too short, just right, too long

The questionnaire can be designed to ask all types of questions which gives answers in all or some of the categories above. The type of response presented is dependent on the type of question asked and how much information you as the questionnaire evaluator requires.

For example the phrase '**The course length was appropriate**' is best served by the answer

1. Too long   2. Too short   3. Just right

rather than

1. Strongly agree   2. Agree   3. Disagree   4. Strongly disagree   5. N/A

At the end of the questionnaire it is useful to leave at least one-half a page for participants to write their own input which can be requested as:

- ✎   Comments
- ✎   Observations, or
- ✎   Suggestions

If an assessment of presenters is necessary for your feedback this can be included and the presenters can be identified by:

- ✎   name
- ✎   topic
- ✎   time slot

An example of how the questionnaire or evaluation sheet can be organized, and examples of types of question is given below:

Section 1: Logistics

The advanced mailing gave adequate information to the participants:
1. Strongly agree   2. Agree   3. Disagree   4. Strongly disagree   5. N/A

Section 2: Course content

The course was well organized
1. Strongly agree   2. Agree   3. Disagree   4. Strongly disagree   5. N/A

The stated objectives were met
1. Strongly agree   2. Agree   3. Disagree   4. Strongly disagree   5. N/A

Section 3: General Overview

How valuable did you find the course?
1   2   3   4   5

The presentations were
1. Too long   2. The right length   3. Too short

Section 4: Results

Did the course provide solutions to existing problems?
1   2   3   4   5

Was the schedule of activities clear?
1   2   3   4   5

Section 5: Scheduling facilities

The time of year selected was appropriate
1   2   3   4   5

The refreshments were satisfactory
1   2   3   4   5

The audio-visual materials were appropriate
1. Strongly agree   2. Agree   3. Disagree   4. Strongly disagree   5. N/A

The course length was
1. Too long   2. Too short   3. The right length

Section 6: Observations

1. How will you utilize the information that you have acquired?

2. What were the weak points of the course?

3. What were the strong points of the course?

Assessment of the evaluation sheets or questionnaires can be done by a general review of the answers and comments or can be more detailed by collating all the responses to each question individually and reporting the results as a percentage of the total participants. The latter form is far more useful as statistical analysis can be performed on the data generated and the success of the course can be quantified ans well as qualified. If proceedings or other document is produced from the course a copy of the questionnaire should be included as well as statistical or graphical representation of the participants' answers and comments.

This information may also be useful as a tool in obtaining support from funding agencies and relevant stakeholders for the convening of similar training courses.

APPENDIX 2
FIELD AND PRACTICAL EXERCISES

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Field exercises are important in the understanding of Integrated Coastal Area Management and the application of Best Management Practices. Field exercises should be coupled with classroom lectures and included in programme of training courses. The purpose of doing a field exercise is to learn how to plan a field visit, to assess a site and its resources, to look at the impact of a particular activity on the site and on the resources (both negative and positive impacts), to look at possible solutions to potential problems, and to generate discussion on the best approach to integrated management. The following points should be taken into account when planning a field exercise.

Site Visit

- Contact appropriate local resource people for involvement and support

- Tour of a selected area (e.g. fishing village, beach, hotel) and outline objectives of the visit.

- Length of time for field visit and logistic requirements

- Selection of concepts and practices for discussion or questions to be answered

- Preparation of a written report after the trip by participants

- Inclusion of additional material (photographs, references, results of interviews)

PRACTICAL EXERCISES

To facilitate an understanding of ICAM principles and their practical application, group exercises may also be designed and delivered during training courses. These should estimate discussion and provide a venue to experience some of the issues and challenges faced by different stake holders in the development of sustainable tourism in the wider Caribbean region. The following is an example of a practical exercise:

In conjunction with the practical exercise, supporting material should be provided. These could include a description of the site, description of the property, map of the area, photographs of the area (including aerial views), copies of existing relevant legislation and copies of relevant workbooks or manuals for reference.

The International Global Resort Co., Barbados, is proposing a joint venture with the Government of Barbados, for the development of a mega tourist settlement in the Mullings Bay area on the south coast. The development will include a 400 room five star hotel, 150 villas for interval vacationing and 100 high cost residences. In the area there are already two hotels and a resident community of 500 people. The area is highly appreciated for the quality of the coastal ecosystems, that include extensive sand dunes and beaches, as well as coral reefs close to the shore. Keeping in mind the principles and goals of Integrated Coastal Area Management, how would you approach the following concerns? Be comprehensive, precise and targeted. Support all proposed strategies with the concepts of ICAM.

1.   The coastal ecosystems in the area of impact are already exposed to sources of degradation from land based activities such as erosion and human encroachment.

2.   The traditional community in the region has a very strong cultural character including economic activities related to fisheries and agriculture.

3.   There is the beginning of a coastal zone management unit which is just developing the guidelines for use in coastal resources in Barbados.

4.   The Barbados Government is concerned about issues of sustainability in the use of all its resources.

5.   The developers do not have a recognized tradition of being environmentally sensitive in other countries.

6.   You have been offered the newly created position, within the developing company, of Environmental Consultant to recommend scientifically sound, and economically viable alternatives for the project underway.

OTHER PRACTICAL TOOLS

In addition to field and practical exercises, it would be recommended to organize informal discussions with relevant tourism practitioners (staff from tourism boards development companies and hotels) and environmental bodies from the host country where the course is being held. These should be valuable opportunities for participants and practitioners from different disciplines to interact regarding tourism and ICAM.

Another useful tool for the sharing of knowledge and experiences is to invite participants to make brief presentations on the status of tourism development and coastal management issues from their own perspectives, or any other case study they judge relevant to the course objectives. Both activities above could be organized as part of an evening programme during course delivery, should time be a constraint.

APPENDIX 3
REFERENCE ORGANISATIONS/ACRONYMS

The following is a list of key organisations in the Wider Caribbean region involved in the management and conservation of coastal ecosystems and in promoting and developing best practises and the acronyms of institutions and organizations referred to throughout this Manual:

AGRRA - Atlantic and Gulf Rapid Reef Assessment, Florida, USA

AN - Acuario Nacional, Dominican Republic

AOC - American Oceans Campain, California, USA

ASK - Amigos de Sian Ka'an, Mexico

BEST - Bahamas Environment, Science and Technology Commission

BNT - Bahamas National Trust, Bahamas

BREEF - Bahamas Reef Environmental Educational Foundation, Bahamas

BHF - Blue Hole Foundation, Bahamas

BMP - Bonaire Marine Park, Bonaire, Netherlands Antilles

CaMPAM - Wider Caribbean Marine Protected Areas Management Network

CANARI - Caribbean Natural Resources Institute, St. Lucia

CARICOMP - Caribbean Coastal Marine Productivity, Florida, USA

CAST - Caribbean Alliance for Sustainable Tourism, Puerto Rico

CCUNRM - Consortium of Caribbean Universities for Natural Resource Management

CDC - Conservation Data Centre, US Virgin Islands

CES - Co-operative Extension Service, US Virgin Islands

CHA - Caribbean Hotel Association, Puerto Rico

CIDA - Canadian International Development Agency

CORAL - Coral Reef Alliance, Florida, USA

CMS - Centre for Marine Sciences, Jamaica

CPACC - Caribbean: Planning for Adaptation to Global Climate Change, Barbados

CII - Clean Islands International, Bahamas

CZMP - Coastal Zone Management Project, Belize

CZMU - Coastal Zone Management Unit, Barbados

DPNR - Department of Planning and Natural Resources, US Virgin Islands

EAST - Environmental Association of St. Thomas and St. John, US Virgin Islands

ECC - Eastern Caribbean Centre of the University of the Virgin Islands

ECO - Earth Communication's Office

EWO - Environmental Watch Organisation, Jamaica

FIP - Fisheries Improvement Project, Jamaica

FOE - Friends of the Environment, Bahamas

FGNMS - Flower Gardens National Marine Sanctuary, Florida, USA

FKNMS - Florida Keys National Marine Sanctuary, Florida, USA

FMSEA - Florida Marine Science Educators Association, Florida, USA

Fundacion MAMMA, Dominican Republic

GCFI - Gulf and Caribbean Fisheries Institute, Florida, USA

GCRMN - Global Coral Reef Monitoring Network

GEF - Global Environmental Facility

GR - Green Reef, Belize

INVEMAR - Instituto de Investigaciones Marinas de Punta de Betín, Colombia

IRF - Island Resources Foundation, St. Thomas, Virgin Islands

LBSMP - Land-based Sources of Marine Pollution

MBMPT - Montego Bay Marine Park Trust, Jamaica

MOET - Ministry of Education and Training, Bahamas

NRCA - Natural Resources Conservation Authority, Jamaica

NCRPS - Negril Coral Reef Preservation Society, Jamaica

OW - Ocean Watch, Bahamas

PAHO - Pan-American Health Organization, Washington, D.C., USA

SEA - St. Croix Environmental Association, US, Virgin Islands

SBF - Siwa-ban Foundation, Belize

SIMAC - Sistema Nacional de Monitoreo de Arrecifes Coralinos en Colombia, Colombia

SMMA - Soufriere Marine Management Area, St. Lucia

STRI - Smithsonian Tropical Research Institute

VIMAS - Virgin Islands Marine Advisory Service

VINP - Virgin Islands National Park Service

WWF - World Wide Fund for Nature

WWW - World Wide Web

APPENDIX 4
FIGURES AND PHOTO CREDITS

COVER — Three Photographs — Environmental Solutions Limited

MODULE 1

Page 8 — Coral Reef (photo) — Graphic + (Corel Draw Clip Art)

Page 10 — Palm trees (photo) — Graphic + (Corel Draw Clip Art)

Page 10 — Ocean View (photo) — Graphic + (Corel Draw Clip Art)

Page 12 — Mangrove (photo) — Graphic + (Corel Draw Clip Art)

MODULE 2

Page 23 — Environmental Management System Model — Modified by Environmental Solutions Limited after ICF, Kaiser, Canada, 1997

Page 24 — Integration of Environmental Management Activities into Project Development Cycle — Modified by Environmental Solutions Limited from Essa Ltd., Sadler and Wiebe, 1996

Page 25 — Environmental Impact Process — Environmental Solutions Limited

Page 26 — Environmental Assessment — Environmental Solutions Limited